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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,258	03/31/2004	John K. Eaton	06550011AA	5309

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EXAMINER

JONES, JUDSON

ART UNIT PAPER NUMBER

2834

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/813,258

Applicant(s)

EATON ET AL.

Examiner

Judson H. Jones

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-25 is/are allowed.
- 6) ☒ Claim(s) 26, 27, 29 and 30 is/are rejected.
- 7) ☒ Claim(s) 28 and 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

Applicant's arguments filed 6/12/2006 have been fully considered and some have been accepted while others were not persuasive. Applicant states, "Kelsey only teaches maintaining the dome 50 at a constant temperature, and is completely silent as to ensuring that the heat transfer fluid temperature remains at approximately the boiling temperature." Column 4 lines 46-52 do teach maintaining the dome at a constant temperature. However the dome and heat transfer fluid are thermally connected and that constant temperature is the temperature at which the heat transfer fluid works properly, which is the boiling temperature. In regard to the issue of whether the pressure adjustment maintains the boiling temperature substantially constant, Kelsey does indeed say that during operation, the temperature of the vapor increases. However "substantially constant" is an imprecise term and it can include a system where the temperature increases by an insubstantial amount. What would seem to be a substantial amount for a heat pipe system would either be a system where the temperature was so high that no condensation occurred or a temperature so low that no boiling occurred. By that standard, Kelsey meets the claim language.

In regard to the pump, Kelsey puts the phrase "condensate pump" in quotes, which implies that the device is not actually a pump. Applicant also argues that "none of the wicks would function to pump the heat transfer fluid through a temperature adjusting device and through a pressure device." That argument is accepted and therefore claim 1 and all claims depending on claim 1 have been indicated as being allowable. In the Kelsey device "The set point of the temperature stabilization is set by ... opening and

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closing the heat pipe pressurization connection valve 84 connected to the heat pipe pressurization connection 82 ...” Therefore the heat transfer fluid is not pumped through the pressure device in the Kelsey apparatus.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tamai et al. 6,946,755 82 in view of Kelsey et al. 5,894,887. Tamai et al. discloses a system for cooling a motor using a heat transfer fluid in a wafer processing system but as does not disclose regulating the pressure or temperature of the heat transfer fluid. Kelsey et al. teaches controlling the temperature and pressure of a heat transfer fluid used in a wafer processing system. In column 2 lines 41-45 Kelsey et al. teaches maintaining the temperature of the fluid and the wafer processing system container at a preset level and teaches maintaining the pressure of the fluid in column 4 lines 35-42. Since Kelsey et al. and Tamai et al. are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized controlling the temperature and pressure of a heat transfer fluid in order to better control the heat transfer action of the fluid.

Claims 27 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamai et al. as modified by Kelsey et al. as applied to claim 26 and further in view of van Brocklin et al. 6,167,955 B2. Tamai et al. as modified by Kelsey et al. discloses the system for cooling a motor using a heat transfer fluid but does not disclose using an adjustable pressure valve in the heat pipe. Van Brocklin et al. teaches using a valve in column 3 lines 17-60 in order to increase the versatility of heat pipe to allow the pipe to be used in varying circumstances requiring different levels of heat dissipation. Since van Brocklin et al. and Tamai et al. as modified by Kelsey et al. are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized an adjustable pressure valve in a system for cooling a motor in order to increase the versatility of the system.

In regard to claim 27, see van Brocklin et al. column 4 lines 19-20 and see Tadayon et al. 6,574,963 column 2 lines 40-43 which explains that a wick structure such as used in van Brocklin is a form of pump.

In regard to claims 29 and 30, see Kelsey et al. column 2 lines 41-45 and see Kelsey et al. column 4 lines 35-42.

***Allowable Subject Matter***

Claims 1-25 are allowed.

Claims 28 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose or teach venting the heat transfer fluid to atmospheric pressure after the pumping step in combination with the other features of claim 28. The prior art of record does not disclose or teach a feedback loop that compares the temperature of output fluid to a desired temperature in combination with the other features of claim 31.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H. Jones whose telephone number is 571-272-2025. The examiner can normally be reached on 8:30 to 5.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Judson H. Jones 7/6/2006



KARL TAMA  
PRIMARY EXAMINER